

ii) a second chimeric nucleotide sequence comprising a second regulatory element in operative association with a nucleotide sequence encoding a histone deacetylase fused with a DNA binding protein, said DNA binding protein interacting with said controlling sequence, to produce said transgenic plant; and

b) growing said transgenic plant;

wherein said nucleotide sequence encoding a histone deacetylase is selected from the group consisting of:

*AtRPD3A*, a nucleotide sequence that hybridizes to *AtRPD3A* under a hybridization condition,

*AtRPD3B*, a nucleotide sequence that hybridizes to *AtRPD3B* under a hybridization condition,

*AtHD2A*, a nucleotide sequence that hybridizes to *AtHD2A* under a hybridization condition,

*AtHD2B*, a nucleotide sequence that hybridizes to *AtHD2B* under a hybridization condition,

nucleotides 1-1807 of SEQ ID NO:1, a nucleotide sequence that hybridizes to nucleotides 1-1807 of SEQ ID NO:1 under a hybridization condition,

nucleotides 142-1644 of SEQ ID NO:1, a nucleotide sequence that hybridizes to nucleotides 142-1644 of SEQ ID NO:1 under a hybridization condition,

nucleotides 1-1800 of SEQ ID NO:3, a nucleotide sequence that hybridizes to nucleotides 1-1800 of SEQ ID NO:3 under a hybridization condition,

nucleotides 121-1533 of SEQ ID NO:3, a nucleotide sequence that hybridizes to nucleotides 121-1533 of SEQ ID NO:3 under a hybridization condition,

nucleotides 1-939 of SEQ ID NO:5, a nucleotide sequence that hybridizes to nucleotides 1-939 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-783 of SEQ ID NO:5, a nucleotide sequence that hybridizes to nucleotides 49-783 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-681 of SEQ ID NO:5, a nucleotide sequence that hybridizes to nucleotides 49-681 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-534 of SEQ ID NO:5, a nucleotide sequence that hybridizes to nucleotides 49-534 of SEQ ID NO:5 under a hybridization condition,

nucleotides 1-1212 of SEQ ID NO:7, a nucleotide sequence that hybridizes to nucleotides 1-1212 of SEQ ID NO:7 under a hybridization condition, and

nucleotides 61-975 of SEQ ID NO:7, a nucleotide sequence that hybridizes to nucleotides 61-975 of SEQ ID NO:7 under a hybridization condition;

wherein each said hybridization condition is selected from the group consisting of:

hybridization in 4XSSC at 65°C, followed by washing in 0.1XSSC at 65°C for an hour,

hybridization in 50% formamide and 4XSSC at 42°C, followed by washing in 0.1XSSC at 65°C for an hour, and

hybridization in 0.5 M Na<sub>2</sub>HPO<sub>4</sub> (pH 7.2), 7% SDS, and 1mM EDTA at 65°C, followed by washing for 15 minutes in 2 x SSC with 0.1% SDS at room temperature, then washing twice for 20 minutes in 0.1 x SSC, 0.1% SDS at 65°C; and

wherein said nucleotide sequence that hybridizes encodes a product that exhibits repression of gene expression activity.

9. (Three Times Amended) An isolated nucleotide sequence, selected from the group consisting of:

SEQ ID NO:3, SEQ ID NO:5, or SEQ ID NO:7,

a nucleotide sequence that hybridizes to SEQ ID NO:3, SEQ ID NO:5, or SEQ ID NO:7,

a nucleotide sequence that hybridizes to nucleotides 1-1800 of SEQ ID NO:3 under a hybridization condition,

nucleotides 121-1533 of SEQ ID NO:3,

a nucleotide sequence that hybridizes to nucleotides 121-1533 of SEQ ID NO:3 under a hybridization condition,

nucleotides 1-939 of SEQ ID NO:5,

a nucleotide sequence that hybridizes to nucleotides 1-939 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-783 of SEQ ID NO:5,

a nucleotide sequence that hybridizes to nucleotides 49-783 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-681 of SEQ ID NO:5,

a nucleotide sequence that hybridizes to nucleotides 49-681 of SEQ ID NO:5 under a hybridization condition,

nucleotides 49-534 of SEQ ID NO:5,

a nucleotide sequence that hybridizes to nucleotides 49-534 of SEQ ID NO:5 under a hybridization condition,

nucleotides 1-1212 of SEQ ID NO:7,

a nucleotide sequence that hybridizes to nucleotides 1-1212 of SEQ ID NO:7 under a hybridization condition,

nucleotides 61-975 of SEQ ID NO:7, and

a nucleotide sequence that hybridizes to nucleotides 61-975 of SEQ ID NO:7 under a hybridization condition;